September 17, 1979

Division File

Perry Mann - Southern Region PCM

St. Clair Co. - LPC 163 045 01 - E. St. Louis/SCA-Milam
Investigation of the final cover at the "old site", west of Cahokia Creek.

On September 12, 1979, Mike Howald and myself visited the East St. Louis/SCA-Milam site to observe the probing of the "final cover" of the "old site", west of the creek. (Certification was required by September 1 by a PCB Order.) Doug Andrews, Norris Eichler, and Gary Leach (of Barttelbort, Rhutasel, and Associates) were present to conduct the probing.

An eight (8) inch diameter auger mounted on the back of a small tractor was utilized (as in November, 1978) for the cover determination. A plan sheet with a 300 foot square grid drawn by Andrews Engineering was followed by using a compass and a tape measure to locate each of the probing locations.

The holes were bored down to the hard fill surface. Then, at each of the borings, two measurements were made. The first measurement identified the depth to the refuse from the ground elevation. A second measurement was taken at the sand-clay interface to the ground elevation to determine the thickness of the clay. (The thickness of sand was documented for Doug Andrews proposal of receiving "partial credit" for the sand as cover.) Forty-six (46) holes in all were dug on the flat lying areas at the top of the fill. No borings were made on the slopes on this date. The attached photo copied plan sheet shows a cover thickness map interpretted by the thickness of clay present at each of the borings. The dashed lines indicate the high edge of the slope. (The slopes are variable in that they extend 100 to 200 feet more from there upper edge.)

The uncolored portions of the map within the sites boundaries are the areas having 12 inches or less of suitable cover material (clay, no sand). The portions shaded in yellow have more than 12 inches but less than 18 inches of cover. The green areas are those having between 18-24 inches while the orange portions are areas exceeding the 24 inch final cover requirement.

As shown on the map a large portion of the site has probably less than 12 inches of suitable cover. Nearly one half of the total number of borings done were found to have less than 12 inches of cover. Sixteen (16) of the forty-six borings had 12-18 inches of cover, inclusive. Of the remaining borings, only six (6) were found to have 18-24 inches; two had cover exceeding 24 inches.

KM
PCM

These borings indicate a similiar picture of the amount of cover present as witnessed in the borings made on September 6, 1979 by Ken Mensing, Mike Howald, and myself. The average of the thirty-three (33) borings done on September 6 indicated approximately 13 inches of cover was present while the average of the new borings came closer to 12 inches. These new borings were placed much more systematically than those in November, 1978 and on September 6, 1979.

An estimate of the volume of cover necessary to complete the two foot final cover requirements (as of September 12) was calculated by using the 3200 cubic yard per acre for 2 foot of compacted cover material figure for each of the borings. (133.33 cubic yards are necessary to cover one acre with one inch of compacted cover material.) Using the 300 foot grid each boring is representative of approximately 2 acres. With these figures the amount of cover needed per 2 acre area was calculated and then totaled.

By this method it was estimated that a minimum of 152,000 cubic yards would still be necessary to cover the top of the completed fill. Approximately 20 acres of land form the slopes of the old fill. Four borings were made on the western slope of the site on September 5, finding no suitable cover material present. No other slopes have been checked (to the knowledge of this office). It is therefore difficult to estimate the cover material still necessary for the completion of the final cover requirement for the slopes.

Doug Andrews stated that he will attempt to receive "partial credit for the sand as a suitable cover material. The PCB order allows the Agency to determine what material is suitable to meet the requirement. Visual inspection of the sand as the borings were being made reveals that this material is <u>not</u> a suitable cover material for the reduction of surface water runoff and precipitation perculating downward into the refuse. Any attempt of gaining approval for some of the sandy material to be used as final cover would require a comprehensive permeability study of that material for a comparison with the clayey cover material.

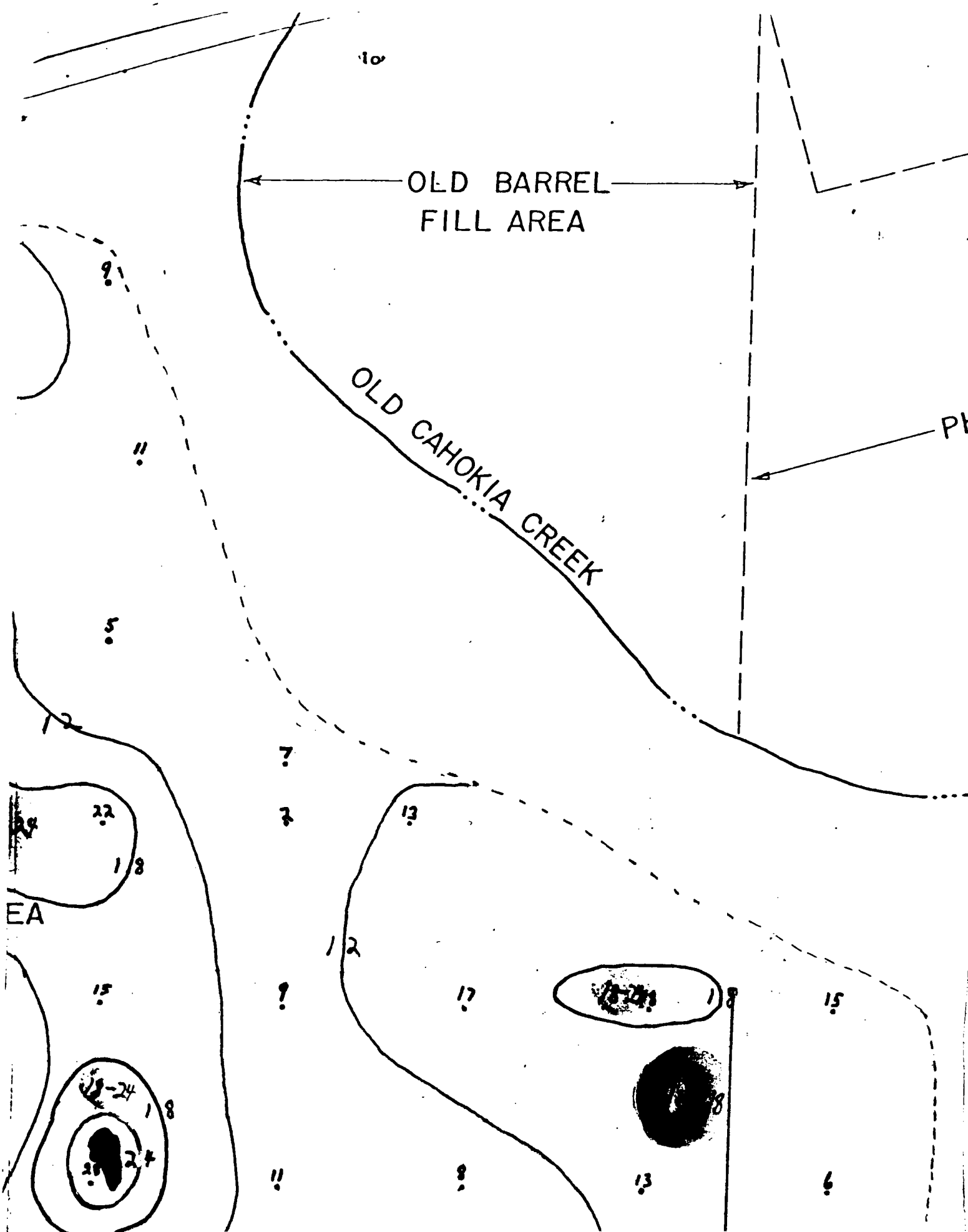
In conclusion, in the 90-95 acres of the old fill represented by the 46 borings made on September 12, approximately one-half of the area has less than 12 inches of the 24 inches required for final cover. Only some small areas indicate that they have the 24 inches of suitable cover material required.

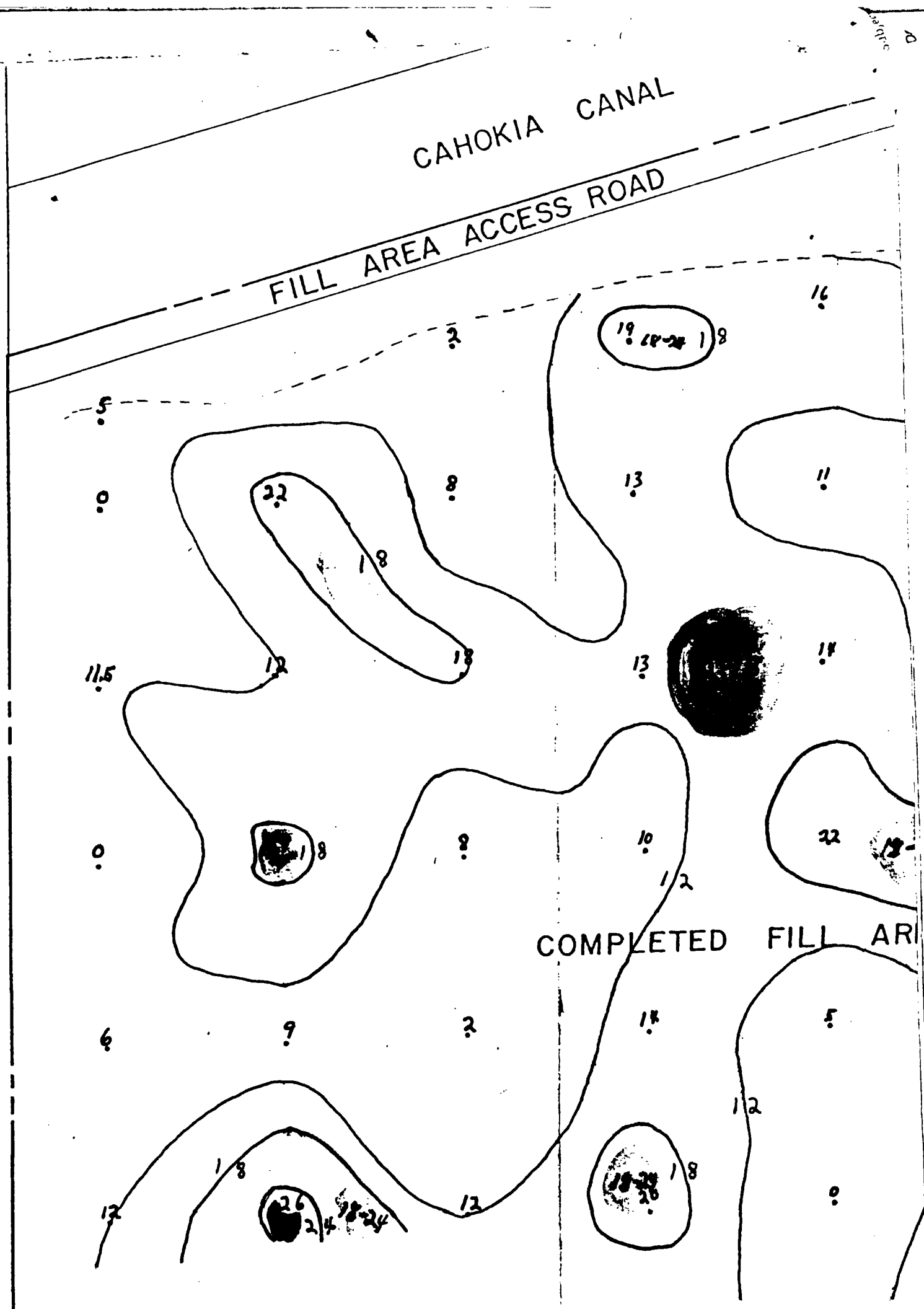
If all cover were counted (sand and clay) one-half of the forty-six borings done would have less than 24 inches.

It therefore must be concluded that the final covering of the "old site" has <u>not</u> been completed and may even require more than 152,000 cubic yards to adequately cover the areas of the site in which the borings were made.

PCH:jlr

cc: Southern Region ✓ Bill Child Stan Parsons Permit Section


OLD BARREL
FILL AREA
OLD CAHOKIA CREEK
EA


CAHOKIA CANAL
FILL AREA ACCESS ROAD
COMPLETED FILL ARI

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY 3260

Reviewed by _____ Date _____

3200 = 2 ft

| | | | | | |
|---|---|---|---|---|---|
| 1 | ~~3~~ ½ cover x 2 acres ~~3200 yd~~ 1600 | 19 | 1467 | 37 | ~~200~~ 2000 |
| 2 | ¼ x 2 ~~1600~~ yd 2400 | 20 | 1467 | 38 | 2933 |
| 3 | 3200 yd | 21 | 1867 | 39 | 2267 |
| 4 | ~~3067~~ 1667 | 22 | 1333 | 40 | 1467 |
| 5 | 3200 | 23 | 533 | 41 | 933 |
| 6 | ~~1333~~ 2533 | 24 | 3200 | 42 | 800 |
| 7 | 267 | 25 | 2533 | 43 | 1200 |
| 8 | 1600 | 26 | 267 | 44 | 2400 |
| 9 | 667 | 27 | 1333 | 45 | 1467 |
| 10 | 2000 | 28 | 1733 | 46 | 2133 |
| 11 | none | 29 | 1067 | | 152,000 |
| 12 | 1600 | 30 | 2000 | | |
| 13 | 2933 | 31 | 1733 | | |
| 14 | 2133 | 32 | 2533 | | |
| 15 | 800 | 33 | 267 ~~1200~~ | | |
| 16 | 2133 | 34 | 1200 | | |
| 17 | 2933 | 35 | none | | |
| | | 36 | 1733 | | |